DOCUMENT RESUME

ED 382 086 HE 028 273

| | |
|---|---|
| AUTHOR | Ottinger, Cecilia; And Others |
| TITLE | Production of Minority Doctorates. |
| INSTITUTION | American Council on Education, Washington, D.C. Div. of Policy Analysis and Research. |
| PUB DATE | 93 |
| NOTE | 14p. |
| AVAILABLE FROM | American Council on Education, One Dupont Circle, Suite 800, Washington, DC 20036 (single copy $10; 8-issue annual subscription $58). |
| PUB TYPE | Collected Works - Serials (022) |
| JOURNAL CIT | Research Briefs; v4 n8 1993 |
| EDRS PRICE | MF01/PC01 Plus Postage. |
| DESCRIPTORS | Academic Achievement; American Indians; Asian Americans; Blacks; Black Students; *Doctoral Degrees; *Educational Trends; Employment Patterns; Higher Education; Hispanic Americans; Intellectual Disciplines; *Minority Groups; Racial Differences; Sex Differences; Trend Analysis |
| IDENTIFIERS | African Americans; Asian American Students; Hispanic American Students; Native Americans; Time to Degree |

ABSTRACT

This report reviews trends in the production of minority doctorates over the past 10 years, comparing the number of minority doctoral recipients and the areas in which they earned their degrees among racial/ethnic groups. Data are reported for U.S. citizens only. The report found that the number of U.S. doctoral recipients increased from 24,391 in 1982 to 25,759 in 1992, a 6 percent rise, while the number of minority doctorates rose from 2,111 to 2,682, a 27 percent increase. Among minority groups, African Americans received fewer doctorates in 1992 than in 1982, while the number of Hispanic, Asian American, and Native American doctoral recipients increased significantly. The natural sciences and engineering accounted for 38 percent of all doctoral degrees awarded to minorities in 1992, up from 24 percent in 1982. In 1982 it took students 6.6 years of registered time to complete the doctoral degree, versus 7.3 years in 1992. Nearly half of minority doctoral recipients planned to be employed by educational institutions in 1992. (MDM)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED 382 086

RESEARCH BRIEFS Volume 4, Number 8 • 1993

*Division of Policy Analysis and Research*
*American Council on Education, Washington, D.C.*

# Production of Minority Doctorates

**by Cecilia Ottinger, Robin Sikula, and Charles Washington**

BEST COPY AVAILABLE

HE028 273

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☑ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

ACE

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

RESEARCH BRIEFS Volume 4, Number 8 • 1993

*Division of Policy Analysis and Research*
*American Council on Education, Washington, D.C.*

# Production of Minority Doctorates

**by Cecilia Ottinger, Robin Sikula, and Charles Washington**

Ensuring an effective faculty is always a critical priority for universities. At the same time, institutions of higher education are increasingly addressing the issue of diversity among faculty. The number of doctorates produced and the number of minorities who receive doctorates are significant determinants of the availability pool for faculty recruitment.

Data from the National Research Council (1982, 1992) indicate that the overall number of U.S. doctoral recipients increased slightly over the past decade. At the same time, the number of recipients has increased for some racial/ethnic groups, but it has decreased for others.

This brief reviews trends in the production of minority doctorates over the past ten years. The number of minority doctoral recipients and the areas in which they earned their degrees are compared among racial/ethnic groups. The brief examines their postdoctoral plans and suggests implications for higher education. The doctorates reported in this brief include U.S. citizens only. Permanent residents and foreign nationals were not included in the computations.

## HIGHLIGHTS

- Over the past decade (1982-1992) the number of U.S. doctoral recipients has increased from 24,391 in 1982 to 25,759 in 1992 (about a 6 percent increase). The number of minority doctorates increased by 27 percent.
- Among minority groups, African Americans received fewer doctorates in 1992 than in 1982, while the number of Hispanic, Asian American, and Native American doctoral recipients increased during the decade.
- The natural sciences (physical and life sciences) and engineering accounted for 38 percent of all doctorate degrees awarded to minorities in 1992, up from 24 percent in 1982.
- In general, doctorates are being completed later in life. From 1982 to 1992, the median age of doctoral recipients increased from 32.6 to 35 years of age. Except for Asian Americans, minorities have a higher median age at completion than do other doctorates.
- Overall, students are taking longer to complete the doctoral degree. In 1982, it took students 6.6 years of registered time to complete the doctorate degree; this figure rose to 7.3 years in 1992. Most minorities experienced an increase in time to completion.
- With the exception of Asian Americans, the percentage of minority doctorates who relied on Guaranteed Student Loans for financial support is higher than the national average of 30.6 percent.
- Educational institutions[1] continue to be the largest employer of new doctorates. Among minorities, about half of Native Americans (49.3 percent), Puerto Ricans (48.8 percent), African Americans (54.8 percent) and Mexican Americans (54.1 percent) planned to be employed in educational institutions.

[1] *Educational institutions include 2-year, 4-year and foreign colleges and universities, medical schools and elementary/secondary schools.*

*Cecilia Ottinger is the Director of Research at the Council of the Great City Schools. Robin Sikula is a Graduate Student at the University of Texas. Charles Washington is a Research Assistant in the Division of Policy Analysis and Research at the American Council on Education.*

Table 1

**Doctorates Awarded to U.S. Citizens by Race/Ethnicity and Gender, 1982 and 1992**

| Race | 1982 | | 1992 | | Percent Change |
|---|---|---|---|---|---|
| | N | Percent | N | Percent | 1982-1992 |
| Total | 24,391 | 100.0 | 25,759 | 100.0 | 5.6 |
| Men | 15,562 | 63.8 | 14,391 | 55.9 | -7.5 |
| Women | 8,829 | 36.2 | 11,368 | 44.1 | 28.8 |
| White | 21,680 | 88.9 | 22,718 | 88.2 | 4.8 |
| Men | 13,990 | 89.9 | 12,741 | 88.5 | -8.9 |
| Women | 7,690 | 87.1 | 9,997 | 87.8 | 29.7 |
| All Minority | 2,111 | 8.7 | 2,682 | 10.4 | 27.0 |
| Men | 1,152 | 7.4 | 1,392 | 9.7 | 20.8 |
| Women | 959 | 10.9 | 1,290 | 11.3 | 34.5 |
| African American | 1047 | 4.3 | 951 | 3.7 | -9.2 |
| Men | 483 | 3.1 | 386 | 2.7 | -20.1 |
| Women | 564 | 6.4 | 565 | 5.0 | 0.2 |
| Hispanic | 535 | 2.2 | 755 | 2.9 | 41.1 |
| Men | 344 | 2.2 | 402 | 2.8 | 16.9 |
| Women | 191 | 2.2 | 353 | 3.1 | 84.8 |
| Asian American | 452 | 1.9 | 828 | 3.2 | 83.2 |
| Men | 281 | 1.8 | 523 | 3.6 | 86.1 |
| Women | 171 | 1.9 | 305 | 2.7 | 78.4 |
| Native American | 77 | 0.3 | 148 | 0.6 | 92.2 |
| Men | 44 | 0.3 | 81 | 0.6 | 84.1 |
| Women | 33 | 0.4 | 67 | 0.6 | 103.0 |
| Other/Unknown | 600 | 2.5 | 359 | 1.4 | -40.2 |
| Men | 420 | 2.7 | 258 | 1.8 | -38.6 |
| Women | 180 | 2.0 | 101 | 0.9 | -43.9 |

**Note**: The number of doctorates reported includes U.S. Citizens only. Permanent Residents and Foreign Nationals are not reported. The percentage calculations for men and women in each racial group was based on the total number of men and women doctorate recipients.

**Source**: NRCI *Summary Report, 1982*. Table 5; *1992*. Table A-4.

## Degrees Conferred

Overall, the number of doctorates awarded by U.S. universities to U.S. citizens increased between 1982 and 1992 (Table 1, Figures 1a and 1b).

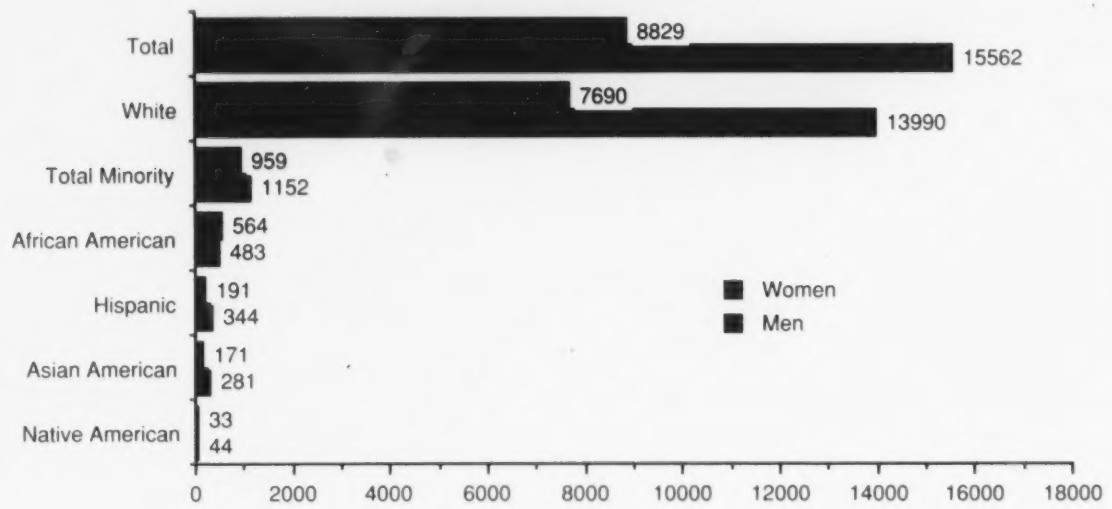
- The number of doctorate degrees earned by U.S. citizens increased by about 6 percent, from 24,391 to 25,759 in 1992.
- Over the same period, doctorates awarded to racial/ethnic minorities increased by 27 percent, from 2,111 to 2,682.
- However, the overall proportion of minorities earning doctorates increased only slightly. Minority individuals earned 10 percent of doctorates conferred in 1992 compared with 9 percent of all doctorates conferred in 1982.

Different racial/ethnic minority groups achieved different levels of success in the number of doctorates earned over the the past decade.

- The number of white doctoral recipients increased 5 percent, from 21,680 in 1982 to 22,718 in 1992.
- African Americans experienced a 9 percent decline in the number of doctorates awarded. They earned 1,047 degrees in 1982 and only 951 degrees in 1992.
- Asian Americans received 828 doctorates in 1992, almost double the 452 doctorates conferred to Asian Americans ten years earlier.
- Native Americans earned 148 doctorates in 1992, almost double the 77 doctorates awarded to Native Americans in 1982.
- Hispanics made gains in the number of doctorates awarded over the past decade. The number

Figure 1a

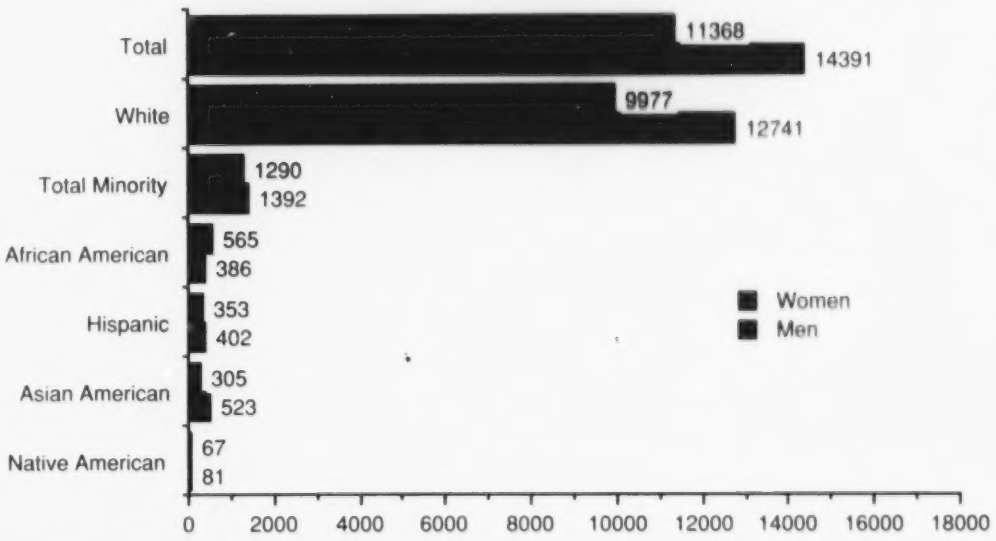
## 1982 Doctorates Awarded to U.S. Citizens by Race/Ethnicity and Gender




**Source:** NRC, *Summary Report, 1982.*

Figure 1b

## 1992 Doctorates Awarded to U.S. Citizens by Race/Ethnicity and Gender




**Source:** NRC, *Summary Report, 1992.*

Table 2a

## Distribution of Doctorates Awarded to U.S. Citizens by Race/Ethnicity and Discipline, 1982

| Broad field | | Total U.S. Citizens | White | Native American | Asian | Black | Puerto Rican | Mexi can American | Other Hispanic | Other/ Unknown |
|---|---|---|---|---|---|---|---|---|---|---|
| Total All Fields | N | 24,391 | 21,680 | 77 | 452 | 1,047 | 137 | 182 | 216 | 600 |
| | % | 100.0 | 88.9 | 0.3 | 1.9 | 4.3 | 0.6 | 0.7 | 0.9 | 2.5 |
| Physical Science | N | 3,120 | 2,878 | 5 | 81 | 30 | 8 | 3 | 23 | 92 |
| | % | 100.0 | 92.2 | 0.2 | 2.6 | 1.0 | 0.3 | 0.1 | 0.7 | 2.9 |
| Engineering | N | 1,169 | 1,015 | 3 | 72 | 9 | 12 | 4 | 7 | 47 |
| | % | 100.0 | 86.8 | 0.3 | 6.2 | 0.8 | 1.0 | 0.3 | 0.6 | 4.0 |
| Life Sciences | N | 4,610 | 4,220 | 12 | 112 | 69 | 12 | 19 | 31 | 135 |
| | | 100.0 | 91.5 | 0.3 | 2.4 | 1.5 | 0.3 | 0.4 | 0.7 | 2.9 |
| Social Sciences | N | 4,801 | 4,294 | 20 | 67 | 193 | 31 | 47 | 37 | 112 |
| | % | 100.0 | 89.4 | 0.4 | 1.4 | 4.0 | 0.6 | 1.0 | 0.8 | 2.3 |
| Humanities | N | 3,023 | 2,703 | 6 | 28 | 96 | 26 | 23 | 58 | 83 |
| | % | 100.0 | 89.4 | 0.2 | 0.9 | 3.2 | 0.9 | 0.8 | 1.9 | 2.7 |
| Education | N | 6,279 | 5,319 | 29 | 69 | 577 | 43 | 77 | 56 | 109 |
| | % | 100.0 | 84.7 | 0.5 | 1.1 | 9.2 | 0.7 | 1.2 | 0.9 | 1.7 |
| Professional/ Other | N | 1,389 | 1,251 | 2 | 23 | 73 | 5 | 9 | 4 | 22 |
| | % | 100.0 | 90.1 | 0.1 | 1.7 | 5.3 | 0.4 | 0.6 | 0.3 | 1.6 |

**Source**: NRC, Survey of Earned Doctorates, 1981-82, unpublished tabulations.

Table 2b

## Distribution of Doctorates Awarded to U.S. Citizens by Race/Ethnicity and Discipline, 1992

| Broad Field | | Total U.S. Citizens | White | Native American | Asian | Black | Puerto Rican | Mexican American | Other Hispanic | Other/ Unknown |
|---|---|---|---|---|---|---|---|---|---|---|
| Total All Fields | N | 25,759 | 22,718 | 148 | 828 | 951 | 211 | 205 | 339 | 359 |
| | % | 100.0 | 88.2 | 0.6 | 3.2 | 3.7 | 0.8 | 0.8 | 1.3 | 1.4 |
| Physical Science | N | 3,519 | 3,137 | 17 | 177 | 34 | 26 | 20 | 42 | 66 |
| | % | 100.0 | 89.1 | 0.5 | 5.0 | 1.0 | 0.7 | 0.6 | 1.2 | 1.9 |
| Engineering | N | 2,102 | 1,744 | 11 | 213 | 31 | 14 | 10 | 34 | 45 |
| | % | 100.0 | 83.0 | 0.5 | 10.1 | 1.5 | 0.7 | 0.5 | 1.6 | 2.1 |
| Life Sciences | N | 4,672 | 4,210 | 19 | 175 | 86 | 35 | 30 | 49 | 68 |
| | | 100.0 | 90.1 | 0.4 | 3.7 | 1.8 | 0.7 | 0.6 | 1.0 | 1.5 |
| Social Sciences | N | 4,613 | 4,090 | 26 | 95 | 179 | 32 | 52 | 75 | 64 |
| | % | 100.0 | 88.7 | 0.6 | 2.1 | 3.9 | 0.7 | 1.1 | 1.6 | 1.4 |
| Humanities | N | 3,453 | 3,134 | 19 | 52 | 95 | 25 | 24 | 58 | 46 |
| | % | 100.0 | 90.8 | 0.6 | 1.5 | 2.8 | 0.7 | 0.7 | 1.7 | 1.3 |
| Education | N | 5,749 | 4,925 | 49 | 77 | 459 | 73 | 57 | 64 | 45 |
| | % | 100.0 | 85.7 | 0.9 | 1.3 | 8.0 | 1.3 | 1.0 | 1.1 | 0.8 |
| Professional/ Other | N | 1,651 | 1,478 | 7 | 39 | 67 | 6 | 12 | 17 | 25 |
| | % | 100.0 | 89.5 | 0.4 | 2.4 | 4.1 | 0.4 | 0.7 | 1.0 | 1.5 |

**Source**: NRC, Survey of Earned Doctorates, 1991-92, unpublished tabulations.

awarded to Puerto Ricans (Tables 2a and 2b) increased by 54 percent (137 to 211); the number awarded to Mexican Americans increased by 13 percent (182 to 205); and the number awarded to other Hispanics increased by 57 percent (216 to 339).

Women in each racial/ethnic minority group made gains in the percentage of doctorates awarded. While white and African American men experienced decreases in the number of doctorates earned, Asian American, Native American, and Hispanic men made some gains (Table 1).

- African American women had a minimal increase, from 564 to 565 doctorates, while African American men experienced a large decrease of 20 percent (483 to 386), in the doctorates awarded between 1982 and 1992.
- Asian American women had a substantial increase (78 percent) in the number of doctorates. Similarly, Asian American men increased the number of doctorates by 86 percent over the decade.
- Native American women registered an increase of 103 percent in the number of doctorates earned from 1982 to 1992, although the actual numerical increase is extremely low: 33 in 1982, up to 67 in 1992. Native American men also increased their number of doctorates from 44 in 1982 to 81 in 1992 (an 84 percent increase).
- Hispanic women experienced a large increase (85 percent) in the number of doctorates they received, rising from 191 in 1982 to 353 in 1992. Hispanic men increased their number of doctorate recipients by 17 percent, from 344 to 402.

## Changes in the Distribution of Doctorates by Fields

Education doctorates continue to account for the largest number of doctorates earned by minorities. However, with increases occurring in other fields, the dominance of education has decreased markedly.

- In 1992, education accounted for 29 percent of all doctorates awarded to minorities, down from 40 percent a decade ago.
- The physical sciences and life sciences accounted for 710 minority doctorates in 1992, 26 percent of the total. The natural sciences and engineering thus accounted for 38 percent of all minority doctorates in 1992, up from 24 percent in 1982.
- The social sciences accounted for 17 percent of all minority doctorates earned in 1992, down from 18.7 percent in 1982.

## Changes in the Share of Doctorates Awarded

Despite some numerical gains, minorities showed only a slight gain (1.7 percentage points) in the share of all doctorates awarded. Minorities accounted for 10.4 percent of all doctorates awarded in 1992, compared to 8.7 percent in 1982.

- Engineering registered the largest increase in the share of doctorates awarded to minorities, moving from a 9.2 percent share in 1982 up to a 14.9 percent share in 1992.
- The physical sciences also had a large increase, from a 4.9 percent share in 1982 up to a 9.0 percent share in 1992.
- The life sciences had a sizable increase as well, from a 5.6 percent share in 1982 to an 8.2 percent share in 1992.
- In the social sciences there was a small increase, from 8.2 percent in 1982 to a 10.0 percent share in 1992.
- Three broad subject categories — the humanities, education, and professional and other fields — saw little gain in the share of doctorates awarded to minorities (Tables 2a and 2b).

As a result of these changes over the last decade, engineering now has the best record of minority representation among newly awarded doctorates. The share of minorities earning engineering doctorates in 1992 was 14.9 percent, above the 13.6 percent share recorded for education, the field that had previously accounted for the largest minority representation. It should be noted, however, that engineering produces many fewer doctorates each year than education.

Most racial/ethnic groups saw modest increases in the share of doctorates awarded during this time.

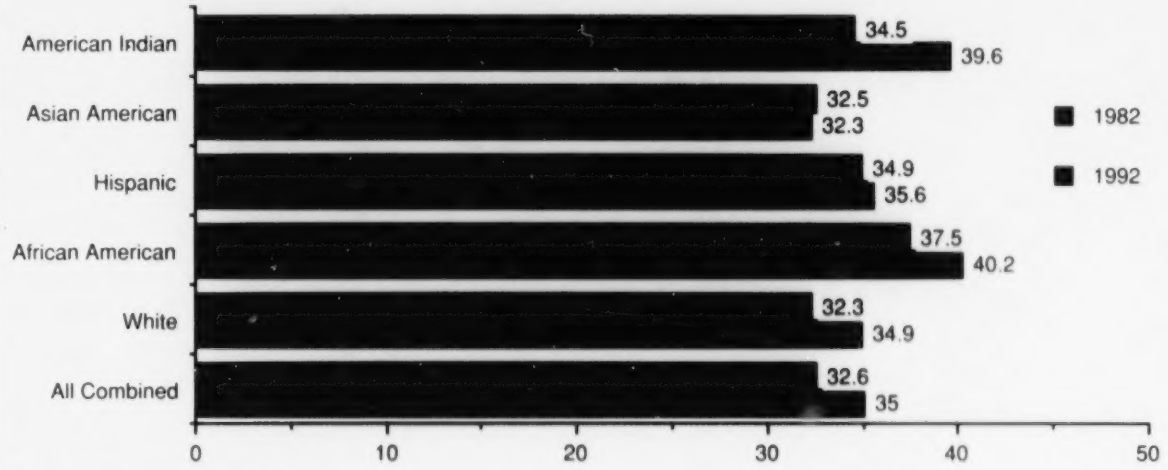
- Asian Americans made the largest gains, moving from a 1.9 percent share to a 3.2 percent share. Gains appeared mainly in the sciences, but with small gains in other fields as well.
- In contrast, African Americans lost some ground, earning 3.7 percent of all doctorates in 1992 compared to 4.3 percent back in 1982. Losses in share occurred in education, the humanities, and professional/other fields.

## Median Age of Minority Doctorates

In general, doctorate recipients are completing their degrees later in life. In 1982, the median age for U.S. citizen doctorate recipients was 32.6 years of age compared to a median age of 35 years in 1992 (Figure 2).

Figure 2

**Median Age of U.S. Doctorate Recipients, 1982 and 1992 by Race/Ethnicity**




**Source:** NRC, *Summary Report, 1982* and *1992*.

- The median age for white doctorate recipients was 32.3 in 1982 and this increased to 34.9 years by 1992.
- In 1992, African Americans had the highest median age of 40.2 years, compared to a median of 37.5 years in 1982.
- The median age of Native American doctorate recipients increased from 34.5 years in 1982 to 39.6 years in 1992.
- Asian Americans had the lowest median age which declined slightly from 32.5 years in 1982 to 32.3 years in 1992.

## Time Lapse between the Baccalaureate and the Doctorate

Comparatively higher median age coincides with a lengthening of the time lapse between the baccalaureate and doctorate. This trend is evident in the *total* time between receipt of the baccalaureate and the doctorate, as well as in the *registered* time of actual enrollment in graduate school, including enrollment in master's and nondegree programs.

The median time between the baccalaureate and the doctorate for all doctoral recipients was 11.5 years in 1992 compared to 9.7 years in 1982 (Table 3).

- In 1992, African Americans had the longest median time between the baccalaureate and the doctorate of 16.4 years. This compares to 13 years in 1982.
- Asian Americans had by far the lowest median time of 9.1 years in 1992, lower than the median of 9.6 years in 1982.
- The median time for Native Americans increased from 11 years in 1982 to 14.3 years in 1992.
- In 1992, Puerto Ricans had a median time of 12.4 years, compared with 12.2 years for Mexican Americans and 10.8 years for other Hispanics. Ten years earlier, Puerto Ricans had a median time lapse of 12.5 compared to 10.5 for Mexican Americans and 10.6 for other Hispanics.

Registered time between the baccalaureate and the doctorate rose during the decade for all racial/ethnic groups except Asian Americans. These increases were not as large as those in total time to degree.

- In 1992, the overall median in registered time was 7.3 years, up from 6.6 years in 1982.
- African Americans had the longest period of registered time, 8 years, up slightly from 7.4 years in 1982.
- Asian Americans had the shortest period of registered time (6.9 years) for the doctorate. Ten years earlier this figure was about the same (6.8 years).
- Native Americans increased their registered time over the past decade from 6.4 years to 7 years.
- The median in registered time for Puerto Ricans

Table 3

## Median Years Between the Baccalaureate and the Doctorate by Race/Ethnicity, 1982 and 1992

| Race/Ethnicity | Total Time | | Registered Time | |
|---|---|---|---|---|
| | 1982 | 1992 | 1982 | 1992 |
| All combined | 9.7 | 11.5 | 6.6 | 7.3 |
| White | 9.6 | 11.4 | 6.6 | 7.3 |
| African American | 13.0 | 16.4 | 7.4 | 8.0 |
| Puerto Rican | 12.5 | 12.4 | 6.6 | 7.5 |
| Mexican American | 10.5 | 12.2 | 7.5 | 7.7 |
| Other Hispanic | 10.6 | 10.8 | 7.1 | 7.4 |
| Asian American | 9.6 | 9.1 | 6.8 | 6.9 |
| Native American | 11.0 | 14.3 | 6.4 | 7.0 |

**Source:** NRC, *Summary Report, 1982*, Table 5; *1992*, Table A-4.

Table 4

## Graduate School Financial Support of 1992 Doctorates

| | Teaching Asst. | Research Asst. | Other University | Business/ Employer | Self/ Family | GSL Loan | Other Loans |
|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % |
| **Total** | **48.5** | **43.8** | **27.8** | **8.5** | **81.4** | **30.6** | **10.6** |
| White | 49.6 | 44.1 | 27.7 | 8.7 | 82.2 | 30.5 | 10.5 |
| African American | 27.2 | 25.4 | 32.3 | 6.3 | 81.4 | 36.4 | 13.8 |
| Puerto Rican | 41.8 | 34.7 | 37.6 | 8.9 | 75.6 | 44.6 | 14.6 |
| Mexican American | 43.9 | 38.0 | 37.6 | 2.4 | 78.0 | 42.0 | 15.1 |
| Other Hispanic | 54.0 | 41.3 | 31.6 | 7.4 | 80.8 | 37.5 | 13.0 |
| Asian American | 46.7 | 60.9 | 23.2 | 8.1 | 70.7 | 22.5 | 7.4 |
| Native American | 41.3 | 40.0 | 23.3 | 6.7 | 81.3 | 36.0 | 18.0 |

**Note:** In this table, a recipient counts once in each source category from which he or she received support. Because students indicate multiple sources of support, the percentages sum to more than 100 percent.
**Source:** NRC, *Summary Report 1982*, Table 5; *1992*, Table A-4.

rose from 6.6 years to 7.5 years. Over the same period, Mexican Americans increased from 7.5 to 7.7 years while other Hispanics increased slightly from 7.1 to 7.4 years.

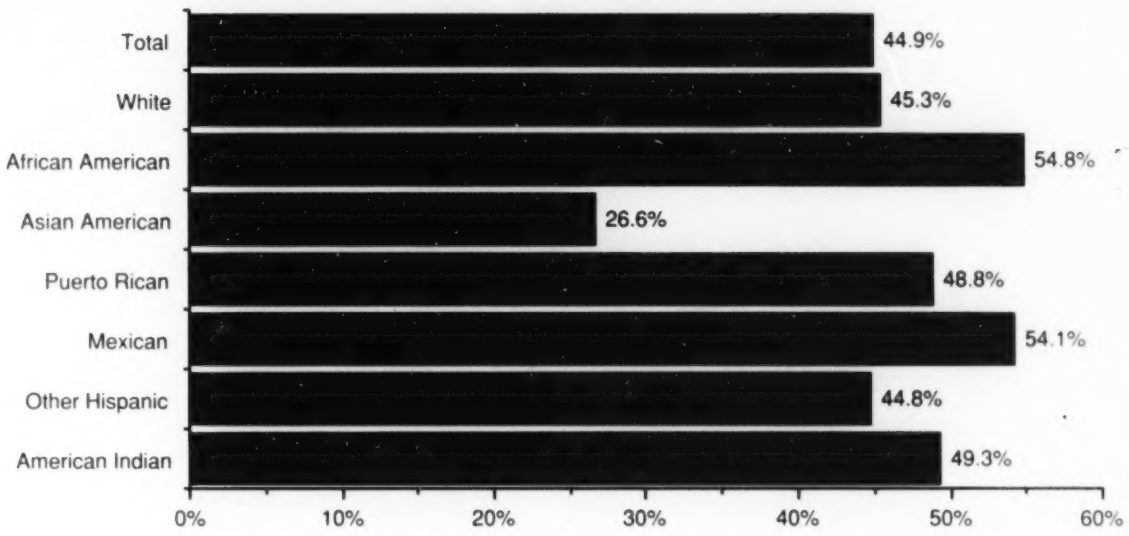
## Graduate School Support

In 1992, the most common sources of financial support for doctorate recipients were self/family (81.4 percent), teaching assistantships (48.5 percent), and research assistantships (43.8 percent) (Table 4).

- The share of new doctorates receiving support from each source has increased since 1982, showing that recent doctorates obtain funds from a greater variety of sources.
- Comparatively few African American doctorates (27.2 percent) cited teaching assistantships as a source of financial support in 1992.
- In 1992, about one-third of doctorate recipients (31 percent) took out Guaranteed Student Loans (GSL). This figure is much higher than the share of 1982 doctorates (13 percent) who took out National Direct Student Loans (NDSL).
- With the exception of Asian Americans, all other minorities were more likely than white students to have relied on Guaranteed Student Loans (GSL) to complete their doctorates.

Figure 3

**Percentage of 1992 U.S. Doctorate Recipients Planning to Work at Educational Institutions, by Race/Ethnicity**




**Source:** NRC, *Summary Report, 1992.*

## Postdoctoral Plans

Educational institutions continue to be the single largest employer of new doctorates. In 1992, 45 percent of doctorate recipients were planning to work at educational institutions (Table 5, Figure 3).

- African Americans and Mexican Americans were more likely than other racial/ethnic groups to pursue employment with educational institutions (Figure 3).

- Only 27 percent of Asian American 1992 doctorate recipients planned employment at educational institutions.

Among all new doctorates, the proportion planning postdoctoral study increased between 1982 and 1992, from 19 percent to 23 percent.

- African Americans (15 percent) and Mexican Americans (20 percent) were the least likely to be planning postdoctoral study in 1992.

- Asian Americans had the largest proportion (32 percent) of 1992 doctorate recipients that were planning postdoctoral study.

Private industries attract a substantial number of doctorates. However, the proportion planning to work in the private sector declined over the past decade. In 1992, about 13 percent of all doctorate recipients planned to be employed in private industry, down from 15.6 percent in 1982.

Most minority groups show relatively small proportions of new doctorates planning to work in private industry. Generally, these proportions decreased over the last decade.

- Some Hispanic groups had increases in the percentage of doctorates who planned to be employed in private industry. Puerto Ricans went from 7.1 to 9.9 percent; other Hispanics went from 13.6 to 14.5 percent. However, Mexican Americans decreased from 10.4 to 8.3 percent over the decade.

The reader should note that this information on postdoctorates and employment represent the combined responses of those with definite commitments as well as those who are seeking these appointments. The full NRC reports show the separate responses.

## Policy Implications

American colleges and universities make concerted efforts to ensure the production of a continuous pool of doctorates from which to recruit their faculty. The data

Table 5

## Postdoctoral Plans of U.S. Doctorate Recipients, 1982 and 1992

| Race/Ethnicity | Postdoctoral Study | | Planned Employment: Educational Institution | | Private Industry | | Government | | Other | | Plans Unknown | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1982 | 1992 | 1982 | 1992 | 1982 | 1992 | 1982 | 1992 | 1982 | 1992 | 1982 | 1992 |
| | % | % | % | % | % | % | % | % | % | % | % | % |
| **Total** | **18.6** | **22.7** | **45.8** | **44.9** | **15.6** | **13.2** | **8.1** | **6.1** | **9.2** | **9.0** | **2.7** | **4.1** |
| White | 19.2 | 22.7 | 45.8 | 45.3 | 16.1 | 13.2 | 7.9 | 6.1 | 9.3 | 9.1 | 1.7 | 3.6 |
| African American | 6.8 | 14.5 | 61.5 | 54.8 | 6.8 | 6.2 | 12.7 | 7.5 | 10.4 | 8.6 | 1.7 | 8.4 |
| Asian American | 27.8 | 31.5 | 29.3 | 26.6 | 23.1 | 22.8 | 8.2 | 6.9 | 7.6 | 7.6 | 4.0 | 4.6 |
| Puerto Rican | 11.4 | 23.9 | 60.7 | 48.8 | 7.1 | 9.9 | 9.3 | 6.1 | 9.3 | 7.5 | 2.1 | 3.8 |
| Mexican American | 16.5 | 19.5 | 50.0 | 54.1 | 10.4 | 8.3 | 12.1 | 4.9 | 9.3 | 7.8 | 1.6 | 5.4 |
| Other Hispanic | 13.1 | 22.7 | 51.4 | 44.8 | 13.6 | 14.5 | 10.3 | 5.3 | 11.2 | 8.8 | 0.5 | 3.8 |
| Native American | 19.5 | 21.3 | 48.1 | 49.3 | 11.7 | 8.7 | 10.4 | 6.0 | 9.1 | 11.3 | 1.3 | 3.3 |
| Other/Unknown | 15.2 | 21.7 | 25.2 | 25.3 | 10.6 | 14.8 | 5.1 | 5.3 | 6.2 | 8.6 | 37.6 | 24.2 |

**Source:** NRC. *Summary Report 1982.* Table 5; *1992.* Table A-4.

reviewed indicate modest overall increases in the number of doctorates awarded to U.S. citizens over the last decade. However, the effort to increase diversity among faculty by increasing the availability pool of minority doctorates has yielded mixed results. The total number of minority doctorates did increase by 27 percent between 1982 and 1992 but the proportion of minority doctoral recipients to total doctorates awarded is still low, at 10 percent. This proportion needs to be increased through effective recruitment and retention strategies if diversity among faculty is to reflect the changing faces of American college student body.

Among minority groups, African Americans were the only group whose share of doctorate recipients declined. In fact, the number of African American men who earned the doctorate sharply decreased by about 20 percent while African American women achieved a minimal gain of only 0.2 percent. The pool of African American doctorates may continue to shrink if institutions do not intervene to reverse this trend.

Minorities achieved some notable gains in doctorate degrees awarded in the sciences and engineering during the last decade. Effective recruitment, mentoring and academic advising programs — often supported by special funds — may have contributed to these gains.

The data reveal that, on average, it is taking doctorate recipients longer to complete the degree than their counterparts ten years ago. For most minority groups, new doctorates had a median age of 35 years or more in 1992. Among African Americans, the median age for new doctorates was 40. Universities should review the reasons why it takes minority doctorates such a long time to complete their degrees. One factor suggested by the data reviewed in this brief relates to financial support; minority doctorates rely on loans more often than do other doctoral students. In the past, another factor that helped explain the lengthy time to completion was the fact that a very large proportion of minority doctorates were in education, a field where completion times are longer and where institutional support has been very low. However, because the proportion of minorities obtaining degrees in education has decreased in the last decade — from 40 percent to 29 percent of all minority doctorates — this factor offers less explanation than previously.

Educational institutions are still the largest employers of new doctorates. Close to half of all new doctorates planned employment at universities or other educational institutions in 1992. At the same time, the proportion of new doctorates who are pursuing postdoctoral studies continues to rise. Minority doctorates generally show less participation in postdoctoral study, however. Because new doctorates who take postdoctoral appointments often remain readily available for academic employment, universities may want to review ways to increase the number of new minority doctorates who have postdoctoral appointments.

## RESOURCES

1) The National Research Council (NRC) Summary Report. The NRC conducts a yearly survey of earned

doctorates sponsored by the following agencies: National Science Foundation, U.S. Department of Education, National Institutes of Health, National Endowment for the Humanities, and U.S. Department of Agriculture. Reports are available at: Doctorate Records Project, Office of Scientific and Engineering Personnel, National Research Council, Room TJ 2006, 2101 Constitution Avenue, N.W., Washington, D.C. 20418. The telephone number is (202) 334-3161.

2) The American Council on Education's Office of Minorities in Higher Education monitors the progress of African Americans, Hispanics, American Indians, and Asian Americans in postsecondary education and engages in efforts to improve their educational and employment opportunities in higher education. OMHE publishes its Report on the Status of Minorities in Higher Education annually. For more information contact ACE/OMHE, One Dupont Circle, NW, Suite 800, Washington, DC 20036, (202) 939-9395.

3) Higher Education Staff Information Surveys (EEO-6) conducted by the Equal Employment Opportunity Commission (EEOC) provide data on race/ethnicity of faculty, staff and administrators. For more information contact Esther Littlejohn, EEOC Office of Research and Surveys, 1801 L Street, N.W., 9th Floor, Washington, D.C. 20507, (202) 663-4958.

4) The 1992 edition of the *Digest of Education Statistics* is the 28th in a series of publications initiated in 1962. Its primary purpose is to provide a compilation of statistical information covering the broad field of American education from kindergarten through graduate school. The *Digest* includes a selection of data from the government and private sources, and draws especially on the results of surveys conducted by the National Center for Education Statistics. Check with the Order Desk at the U.S. Government Printing Office for information on the latest edition. The telephone number is (202)783-3238.

## BIBLIOGRAPHY


Reis, P. and D.H. Thurgood. *Summary Report 1992. Doctorate Recipients from United States Universities.* Washington D.C.: National Academy Press, 1993.

Syverson, Peter D. *Summary Report 1982. Doctorate Recipients from United States Universities.* Washington, D.C.: National Academy Press 1983.

Carter, Deborah J. and Reginald Wilson. *Eleventh Annual Status Report 1992: Minorities in Higher Education.* Washington, D.C.: American Council on Education, 1992.

# ACE Board of Directors

***EXECUTIVE COMMITTEE***

Edward A. Malloy, CSC
President
University of Notre Dame,
*Chair*

Juliet V. Garcia
President
University of Texas at
Brownsville, *Vice Chair*

Hoke L. Smith
President
Towson State University,
*Immediate Past Chair*

James E. Lyons, Sr.
President
Jackson State University,
*Secretary*

Thomas Ehrlich
President
Indiana University

Ofelia Garcia
President
Rosemont College

Thomas Gonzalez
President
Front Range Community
College

Robert H. Atwell
President
American Council on Education

***CLASS OF 1993***

Myles Brand
President
University of Oregon

Shirley S. Chater
President
Texas Woman's University

Thomas Gonzales
President
Front Range Community
College

Franklyn G. Jenifer
President
Howard University

James E. Lyons, Sr.
President
Jackson State University

Hoke L. Smith
President
Towson State University

Niara Sudarkasa
President
Lincoln University

Michael Timpane
President
Teachers College, Columbia
University

***CLASS OF 1994***

Jacquelyn M. Belcher
President
Minneapolis Community
College

Carol A. Cartwright
President
Kent State University

Joseph D. Duffey
President
The American University

Thomas Ehrlich
President
Indiana University

Claire Gaudiani
President
Connecticut College

William R. Harvey
President
Hampton University

Edward A. Malloy, CSC
President
University of Notre Dame

Robert H. McCabe
President
Miami-Dade Community
College

***CLASS OF 1995***

John T. Casteen, III
President
University of Virginia

Dolores E. Cross
President
Chicago State University

Juliet V. Garcia
President
University of Texas at
Brownsville

Ofelia Garcia
President
Rosemont College

David Iha
Provost
Kauai Community College

Anne E. Mulder
President
Lake Michigan College

Barry A. Munitz
Chancellor
The California State University
System

Michele Tolela Myers
President
Denison University

***ASSOCIATION REPRESENTATIVES***

Bette E. Landman
President, Beaver College
Association of American
Colleges

John S. Keyser
President, Clackamas Commu-
nity College
American Association of
Community Colleges

John E. Van de Wetering
President, State University
College of New York at
Brockport
American Association of State
Colleges and Universities

F. Sheldon Hackney
President, University of
Pennsylvania
Association of American
Universities

Jeanne O'Laughlin, OP
President, Barry University
Association of Catholic
Colleges and Universities

Albert J. DiUlio, SJ
President, Marquette University
Association of Jesuit Colleges
and Universities

Anita Pampusch
President, College of St.
Catherine
Council of Independent Colleges

Arthur Thomas
President, Central State
University
National Association for Equal
Opportunity in Higher
Education

Author E. Hughes
President, University of San Diego
National Association of
Independent Colleges and
Universities

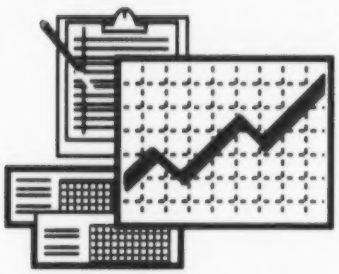
Donald C. Swain
President, University of
Louisville
National Association of State
Universities and Land-Grant
Colleges

Janet Rodgers
Dean and Professor, Philip Y.
Hahn School of Nursing,
University of San Diego
American Association of
Colleges of Nursing

Donald Stewart
President, The College Board
The College Board

Phillip M. Grier
Executive Director, National
Association of College and
University Attorneys
Washington Higher Education
Secretariat

BEST COPY AVAILABLE



# THE ACE RESEARCH BRIEF SERIES

The Division of Policy Analysis and Research at the American Council on Education publishes the ACE Research Brief Series, a collection of short papers exploring timely and pertinent issues in higher education. Current topics include trends in the hiring of minority faculty, women in higher education, public sector enrollment and degrees, Latinos in higher education, a profile of baccalaureate colleges, and economic trends and higher education. The series is published eight times a year and is available for $58 for one year, $106 for two years or single copies for $10. ACE member institutions receive a 10 percent discount.

Elaine El-Khawas, *Vice President, Policy Analysis and Research* Ebo Otuya, *Editor, Research Briefs Series*

The following are previous topics examined in the
**Research Brief Series** and copies of these issues are still available:

**1990**

- ☐ No. 1—Faculty Salaries in Perspective
- ☐ No. 2—Students Who Work: A Profile
- ☐ No. 3—Racial and Ethnic Trends in College Participation
- ☐ No. 4—Community and Junior Colleges: A Recent Profile
- ☐ No. 5—College Graduates in the Labor Market: Today and the Future
- ☐ No. 6—A Decade of Change: The Status of U.S. Women Doctorates: 1978-1988
- ☐ No. 7—Enrollment by Age: Distinguishing the Numbers from the Rates
- ☐ No. 8—Campus and Student Assessment

**1991**

- ☐ No. 1—Higher Education Expenditures and Participation: An International Comparison
- ☐ No. 2—Academics Bargaining Collectively: Some ABCs
- ☐ No. 3—College Going, Persistence, and Completion Patterns in Higher Education: What do We Know?
- ☐ No. 4—Asian Americans in Higher Education: Trends and Issues
- ☐ No. 5—Senior Faculty in Academe: Active, Committed to the Teaching Role
- ☐ No. 6—Endowments: How Big and Where
- ☐ No. 7—Higher Education and Infrastructure: The Federal Role
- ☐ No. 8—The Higher Education Enterprise

**1992**

- ☐ No. 1—Master's Degree Students and Recipients: A Profile
- ☐ No. 2—Economic Trends and Higher Education
- ☐ No. 3—American Indians in Higher Education
- ☐ No. 4—What is the Service Sector?
- ☐ No. 5—Student Financial Aid: The Growth of Academic Credit's Other Meaning
- ☐ No. 6—Students in the Humanities
- ☐ No. 7—Community College Faculty: A Profile
- ☐ No. 8—Part-Time Students: Trends and Issues

**1993**

- ☐ No. 1—Outside the Classroom: Students as Employees, Volunteers and Interns
- ☐ No. 2—Women in Higher Education: Where do We Stand?
- ☐ No. 3—Public Sector Enrollment and Degrees
- ☐ No. 4—Latinos in Higher Education
- ☐ No. 5—A Contemporary Profile of Baccalaureate Colleges
- ☐ No. 6—Employment and Hiring Patterns for Faculty of Color
- ☐ No. 7—Developing Our Future: American R&D in International Perspective
- ☐ No. 8—Production of Minority Doctorates

To order, make check payable to: American Council on Education
*All orders must be prepaid. No purchase orders accepted.*
Mail to: 1994 Research Brief Series, American Council on Education
One Dupont Circle NW, Washington, D.C. 20036, (202) 939-9450